

**MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
OPERATING PERMIT TECHNICAL REVIEW DOCUMENT #TRD3238-00**

Permitting and Compliance Division
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P.O. Box 200901
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**International Malting Company, LLC – Great Falls
NE¼ of the SE¼ of Section 30, Township 21 North, Range 4 East, Cascade County, MT
P.O. Box 712
Milwaukee, WI 53201**

The following table summarizes the air quality programs testing, monitoring, and reporting requirements applicable to this facility.

Facility Compliance Requirements	Yes	No	Comments
Source Tests Required	X		Method 5, 7 through 7E, 9, 10 or 10B
Ambient Monitoring Required		X	
COMS Required		X	
CEMS Required		X	
Schedule of Compliance Required		X	
Annual Compliance Certification and Semiannual Reporting Required	X		As Applicable
Monthly Reporting Required		X	
Quarterly Reporting Required		X	
Applicable Air Quality Programs			
ARM Subchapter 7 Preconstruction Permitting	X		Permit #3238-00
New Source Performance Standards (NSPS)		X	
National Emission Standards for Hazardous Air Pollutants (NESHAPS)		X	
Maximum Achievable Control Technology (MACT)		X	
Major New Source Review (NSR)		X	
Prevention of Significant Deterioration (PSD)		X	
Risk Management Plan Required (RMP)		X	
Acid Rain Title IV		X	
State Implementation Plan (SIP)	X		General SIP

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SECTION I. GENERAL INFORMATION

A. Purpose

This document establishes the basis for the decisions made regarding the applicable requirements, monitoring plan, and compliance status of emission units affected by the operating permit proposed for this facility. The document is intended for reference during review of the proposed permit by the U.S. Environmental Protection Agency (EPA) and the public. It is also intended to provide background information not included in the operating permit and to document issues that may become important during modifications or renewals of the permit. Conclusions in this document are based on information provided in the original application submitted by International Malt Company (IMC) on February 3, 2003.

B. Facility Location

The IMC facility is located approximately 2 miles north of the City of Great Falls, Montana, and approximately ½ mile west of Black Eagle Road. The legal description of the facility site is the NE¼ of the SE¼ of Section 30, Township 21 North, Range 4 East, in Cascade County, Montana.

C. Facility Background Information

On May 17, 2003, the Montana Department of Environmental Quality (Department) issued IMC final Montana Air Quality Permit #3238-00.

D. Taking and Damaging Analysis

HB 311, the Montana Private Property Assessment Act, requires analysis of every proposed state agency administrative rule, policy, permit condition or permit denial, pertaining to an environmental matter, to determine whether the state action constitutes a taking or damaging of private real property that requires compensation under the Montana or U.S. Constitution. As part of issuing an operating permit, the Department is required to complete a Taking and Damaging Checklist. As required by 2-10-101 through 105, MCA, the Department has conducted a private property taking and damaging assessment and has determined there are no taking or damaging implications. The checklist was completed on September 7, 2004.

E. Compliance Designation

As of January 26, 2005, the IMC facility is under construction and has not yet begun operations. Therefore, the facility has not yet undergone a full compliance evaluation. However, construction phase inspections conducted to date indicated compliance with applicable requirements.

SECTION II. SUMMARY OF EMISSION UNITS

A. Facility Process Description

IMC operates a barley malt manufacturing plant with a malt and salable malt by-product production capacity of 16 million bushels per year. Construction and operation of the proposed malting plant will occur in two phases (Phase I and Phase II). After construction of Phase I, the malting plant will have the capacity to produce from 8 to 12 million bushels of malt and salable malt by-product per year. After construction of Phase II, the malting plant capacity will increase to a maximum of 16 million bushels of malt and salable malt by-product per year. IMC will commence Phase II operations within 3 years of the commencement of Phase I operations. A complete list of equipment is contained in Section I.A of the permit analysis for this permit.

B. Emission Units and Pollution Control Device Identification

The emission units regulated by this permit are the following (ARM 17.8.1211):

Emissions Unit ID	Description	Pollution Control Device/Practice
EU001	Facility-Wide Production / Process Limits	Applicable Limits
EU002	Raw Material and Product Handling	Fabric Filter Baghouse
EU003	Kiln Operations	Pipeline Quality Natural Gas Only and Limited Elemental Sulfur Combustion
EU004	Process Heaters	Pipeline Quality Natural Gas Only

C. Categorically Insignificant Sources/Activities

The following table of insignificant sources and/or activities were provided by IMC. Because there are no requirements to update such a list, the emission units and/or activities may change from those specified in the table.

Emissions Unit ID	Description
IEU01	100 ton/hr Malt Load-Out Spouts (2)
IEU02	100 ton/hr Barley Receiving Bins (4)
IEU03	190 ton/hr Malt Load-Out Spouts (2)
IEU04	Truck Load-Out #2
IEU05	Vehicle Traffic Fugitive Dust

SECTION III. PERMIT CONDITIONS

A. Emission Limits and Standards

EU001 – Facility-Wide Production / Process Limits

IMC is limited to a maximum of 16 million bushels of malt and salable malt by-product per year. This limit is based on the maximum production level analyzed under IMC's application for Montana Air Quality Permit (MAQP) #3238-00.

Further, IMC is limited to a maximum barley throughput of 456,000 tons per year. This limit is based on the maximum production level analyzed under IMC's application for MAQP #3238-00.

EU002 – Raw Material and Product Handling

All emissions (fugitive and stack) from material handling operations at the IMC plant are limited to a maximum opacity of 20% averaged over 6 consecutive minutes. This limit is established for stack emissions in accordance with the provisions of ARM 17.8.304 and for fugitive emissions in accordance with the provisions of ARM 17.8.308.

All stack emissions from raw material and product handling must be vented to a fabric filter baghouse. Further, Baghouse #1-#8 are limited to 0.005 grains per dry standard cubic foot of flow through each respective baghouse. This limit is established based on IMC proposed achievable baghouse performance as analyzed under the application for MAQP #3238-00.

All barley preparation processes shall be located within the enclosed headhouse and shall be vented to fabric filter baghouse control. Through case-by-case analysis, these requirements were established as Best Available Control Technology (BACT).

All barley shipments shall be unloaded to underground hoppers that are vented to a fabric filter baghouse. Through case-by-case analysis, these requirements were established as BACT.

All malt and salable malt by-product shall be loaded for shipment via covered conveyors, which are vented to fabric filter baghouse control. Through case-by-case analysis, these requirements were established as BACT.

All material transfer points for grain receiving and off-loading operations shall utilize at least 3-sided enclosure for the control of fugitive dust emissions. Through case-by-case analysis, these requirements were established as BACT.

EU003 – Kiln Operations (Kiln #1, Kiln #2, Kiln #3)

All emissions from kiln operations at the IMC plant are limited to a maximum opacity of 20% averaged over 6 consecutive minutes. This limit is established for stack emissions in accordance with the provisions of ARM 17.8.304(2).

Each kiln is limited to an SO₂ emission rate of 83.33 lb/hr. This limit is based on potential emissions resulting from the permitted maximum allowable elemental sulfur combustion for each kiln batch.

Each kiln batch is limited to a maximum of 500 pounds of elemental sulfur combusted per kiln batch. This limit was established based on the maximum elemental sulfur combustion analyzed under the ambient air quality impact analysis conducted for issuance of Montana Air Quality Permit (MAQP) #3238-00.

The cumulative elemental sulfur burning (total for all 3 kilns) for IMC operations is limited to 365,000 pounds during any rolling 12-month time period. This limit was established based on the maximum elemental sulfur combustion analyzed under the ambient air quality impact analysis conducted for issuance of MAQP #3238-00.

The cumulative allowable time (total for all 3 kilns) that elemental sulfur may be combusted at the IMC site is limited to 2190 hours during any rolling 12-month time period. This limit was established based on the maximum elemental sulfur combustion analyzed under the ambient air quality impact analysis conducted for issuance of MAQP #3238-00.

Kiln fuel is limited to the combustion of pipeline quality natural gas. Through case-by-case analysis, this requirement was established as BACT.

EU004 – Process Heaters

All emissions from process/booster heater operations at the IMC plant are limited to a maximum opacity of 20% averaged over 6 consecutive minutes. This limit is established for stack emissions in accordance with the provisions of ARM 17.8.304(2).

Emissions from each of the 12 – 19.12 MMBtu/hr process heaters are limited to the following emission rates. These limits were established based on the maximum allowable operations demonstrating compliance with applicable ambient air quality standards analyzed under the ambient air quality impact analysis conducted for issuance of MAQP #3238-00.

NO _x	1.87 lb/hr
CO	1.57 lb/hr

Emissions from the 21 MMBtu/hr booster heater #1 are limited to the following emission rates. These limits were established based on the maximum allowable operations demonstrating compliance with applicable ambient air quality standards analyzed under the ambient air quality impact analysis conducted for issuance of MAQP #3238-00.

NO _x	2.06 lb/hr
CO	1.73 lb/hr

Emissions from the 38 MMBtu/hr booster heater #2 are limited to the following emission rates. These limits were established based on the maximum allowable operations demonstrating compliance with applicable ambient air quality standards analyzed under the ambient air quality impact analysis conducted for issuance of MAQP #3238-00.

NO _x	3.73 lb/hr
CO	3.13 lb/hr

Process/booster heater fuel is limited to the combustion of pipeline quality natural gas. Through case-by-case analysis, this requirement was established as BACT.

D. Monitoring Requirements

ARM 17.8.1212(1) requires that all monitoring and analysis procedures or test methods required under applicable requirements are contained in operating permits. In addition, when the applicable requirement does not require periodic testing or monitoring, periodic monitoring must be prescribed that is sufficient to yield reliable data from the relevant time period that is representative of the source's compliance with the permit.

The requirements for testing, monitoring, recordkeeping, reporting, and compliance certification sufficient to assure compliance do not require the permit to impose the same level of rigor for all emission units. Furthermore, they do not require extensive testing or monitoring to assure compliance with the applicable requirements for emission units that do not have significant potential to violate emission limitations or other requirements under normal operating conditions. When compliance with the underlying applicable requirement for a insignificant emissions unit is not threatened by lack of regular monitoring and when periodic testing or monitoring is not otherwise required by the applicable requirement, the status quo (**i.e., no monitoring**) will meet the requirements of ARM 17.8.1212(1). Therefore, the permit does not include monitoring for insignificant emissions units.

The permit includes periodic monitoring or recordkeeping for each applicable requirement. The information obtained from the monitoring and recordkeeping will be used by the permittee to periodically certify compliance with the emission limits and standards. However, the Department may request additional testing to determine compliance with the emission limits and standards.

E. Test Methods and Procedures

The operating permit may not require testing for all sources if routine monitoring is used to determine compliance, but the Department has the authority to require testing if deemed necessary to determine compliance with an emission limit or standard. In addition, the permittee may elect to voluntarily conduct compliance testing to confirm its compliance status.

F. Recordkeeping Requirements

The permittee is required to keep all records listed in the operating permit as a permanent business record for at least five years following the date of the generation of the record.

G. Reporting Requirements

Reporting requirements are included in the permit for each emissions unit and Section V of the operating permit "General Conditions" explains the reporting requirements. However, the permittee is required to submit semi-annual and annual monitoring reports to the Department and to annually certify compliance with the applicable requirements contained in the permit. The reports must include a list of all emission limit and monitoring deviations, the reason for any deviation, and the corrective action taken as a result of any deviation.

H. Public Notice

In accordance with ARM 17.8.132, a public notice was published in the *Great Falls Tribune* newspaper on or before Thursday, October 22, 2004. The Department provided a public comment period on the draft operating permit from October 22, 2004, through November 22, 2004. ARM 17.8.1232 requires the Department to keep a record of both comments and issues raised during the public participation process. The Department did not receive any public comment during the public comment period.

Summary of Public Comments

Person/Group Commenting	Comment	Department Response
None	None	NA

I. Draft Permit Comments

On November 22, 2004, the Department received comments from Bison Engineering, Inc., on behalf of IMC. These comments are summarized, along with the Department's responses, in the table below.

Summary of Permittee Comments

Permit Reference	Permittee Comment	Department Response
Section I, General Information	The responsible official and phone number should be changed to Damian Lasaffre at (414) 671-1166.	The Department will modify the affected information to reflect the proper reference under the proposed operating permit.
Section I, General Information	Fifth sentence in "Description of Process" should be changed to "IMC will commence Phase II construction within 3 years of commencement of Phase I operations."	The Department will modify the affected information to reflect the proper reference under the proposed operating permit.
Section III.A, Facility-Wide	Condition II.A.2 should be removed from the table and the list of "Conditions." Condition A.2 addresses a 40% opacity limit for sources installed before November 23, 1968. Since the facility is new, Condition A.2 cannot be applicable to any installed source at the IMC facility.	The Department will remove the affected condition under the proposed operating permit.
Section III, Facility-Wide	Condition II.A.14 should be removed from the table and the list of "Conditions." Condition A.14 addresses the requirement for start-up, shutdown, and malfunction (SSM) plans for facilities that are classified as a major source of hazardous air pollutants (HAP). IMC is not a major source of HAPs, as defined in 40 CFR 63.	Since IMC could potentially become an affected source (major source of HAPs or an affected area source), the Department will not remove this generally applicable facility-wide condition under the proposed operating permit.
Section III.C, EU002 – Raw Material and Product Handling	IMC would like to remove the weekly visual surveys from condition C.9. IMC does not believe that weekly visual surveys are necessary for these operations that are for the most part considered insignificant.	The Department disagrees with IMC's belief that material and product handling operations constitute insignificant activities. Further, the Department believes that weekly visual surveys constitute an appropriate and typical compliance demonstration for sources of this type. The Department will not modify this condition under the proposed operating permit.
Section III.D, EU003 – Kiln Operations (Kiln #1, Kiln #2, and Kiln #3)	<p>Condition D.6, D.12, and D.17 should be removed from the table and the list of "Conditions" since there is no combustion of natural gas associated with kiln operations.</p> <p>IMC would like to remove the weekly visual surveys from Condition D.7. IMC does not believe that weekly visual surveys are necessary for the kiln operations since the PM₁₀ emissions are not uniformly emitted during the batch process.</p>	<p>Since kiln operations are directly associated with natural gas fired process heater operations (kiln heat), the Department disagrees with IMC's contention that there is no combustion of natural gas associated with kiln operations. However, the Department believes that compliance with the associated natural gas combustion operations is appropriately covered under Section III.E, Process Heaters. The Department will remove conditions III.D.6, III.D.12, and III.D.17 for issuance of the proposed operating permit.</p> <p>Further, the Department believes that weekly visual surveys constitute an appropriate and typical compliance demonstration for sources of this type. The Department will not modify this condition under the proposed operating permit.</p>

Section III.E, EU004 – Process Heaters	IMC would like to remove the weekly visual surveys from Condition E.6. IMC does not believe that weekly visual surveys are necessary for the kiln operations since the PM ₁₀ emissions are extremely low for the natural gas-fired process heaters. Typically, visual surveys are not required on natural gas combustion devices (i.e., process heaters).	The Department agrees that the visual surveys compliance demonstration is atypical for units of this type. Typically, the opacity compliance demonstration for natural gas combustion devices, such as the affected process heaters, is the burning of pipeline quality natural gas. Because Section III.E.5 requires the burning of pipeline quality natural gas for these units, the Department believes that the opacity limit is protected. The Department will modify the affected condition to remove the visual surveys requirement under the proposed operating permit.
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Summary of EPA Comments

Permit Reference	EPA Comment	Department Response
NA	None	NA

SECTION IV. NON-APPLICABLE REQUIREMENT ANALYSIS

Pursuant to ARM 17.8.1221, IMC requested a permit shield for all non-applicable regulatory requirements and regulatory orders identified in Section 7.1 of the IMC Title V Operating Permit Application.

The following table outlines those requirements that IMC had identified as non-applicable in the permit application, but, after Department review, will not be included in the operating permit as non-applicable. The table includes both the applicable requirement and reason that the Department did not identify this requirement as non-applicable.

Rule Citation	Reason
40 CFR 50 40 CFR 51 40 CFR 58 40 CFR 71	Although these rules contain requirements for the regulatory authorities and not major sources, these rules can be used as authority to impose specific requirements on a major source.
40 CFR 52, ARM 17.8.1001 ARM 17.8.1103	These rules do not have specific requirements and may or may not be relevant to a major source and should never be listed in the applicable or non-applicable requirements.
40 CFR 62 40 CFR 69 40 CFR 70	These rules do not have specific requirements and are always relevant to a major source and should never be listed in the applicable or non-applicable requirements.
40 CFR 61, Subpart M 40 CFR 63, Subpart A and Subpart B 40 CFR 68 ARM 17.8.120 <i>et seq.</i> ARM 17.8.514 ARM 17.8.515 ARM 17.8.611 ARM 17.8.612 ARM 17.8, Subchapter 8 ARM 17.8, Subchapter 9	These rules are procedural and have specific requirements that may become relevant to a major source during the permit span.
ARM 17.8, Subchapter 7	These rules are applicable to the source and may contain specific requirements for compliance.

SECTION V. FUTURE PERMIT CONSIDERATIONS

A. MACT Standards

As of January 26, 2005, the Department is unaware of any currently applicable or future MACT standards that may be promulgated that will affect this facility.

B. NESHAP Standards

As of January 26, 2005, the Department is unaware of any currently applicable or future NESHAPs standards that may be promulgated that will affect this facility.

Asbestos abatement projects and building demolition/renovation activities will be conducted in accordance with applicable asbestos regulatory requirements. Those regulatory requirements include, but are not limited to 29 CFR 1926.1101; 40 CFR 763 Sections 120, 121, 124, and Subpart E; 40 CFR Part 61, Subpart M; State of Montana Asbestos Control Act 75-2-501 through 519 MCA, and State of Montana Occupational Health Rules ARM 17.74.301 through 406. State-accredited asbestos abatement personnel shall conduct the abatement of regulated asbestos-containing materials. Asbestos-containing waste materials shall be transported properly and disposed of in a State-approved landfill.

C. NSPS Standards

As of January 26, 2005, the Department is unaware of any currently applicable or future NSPS standards that may be promulgated that will affect this facility.

D. Risk Management Plan

As of January 26, 2005, this facility does not exceed the minimum threshold quantities for any regulated substance listed in 40 CFR 68.115 for any facility process. Consequently, this facility is not required to submit a Risk Management Plan.

If a facility has more than a threshold quantity of a regulated substance in a process, the facility must comply with 40 CFR 68 requirements no later than June 21, 1999; three years after the date on which a regulated substance is first listed under 40 CFR 68.130; or the date on which a regulated substance is first present in more than a threshold quantity in a process, whichever is later.